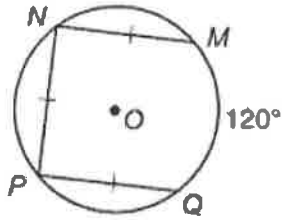


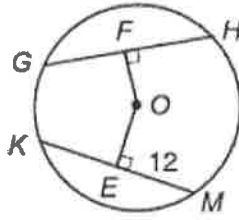
# Geometry Part 2 Study Guide

In each circle,  $O$  is the center. Find each measure.

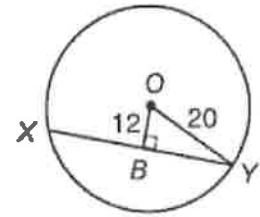
1.  $m\widehat{NP}$



2.  $KM$



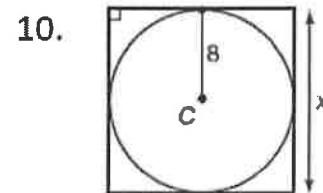
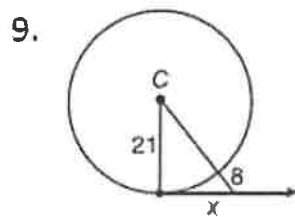
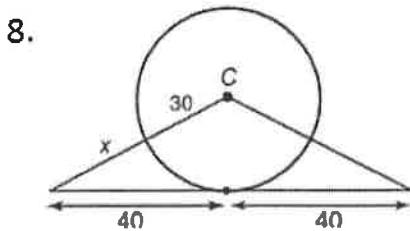
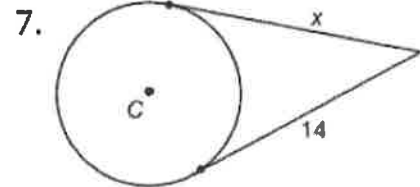
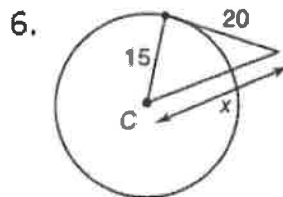
3.  $XY$



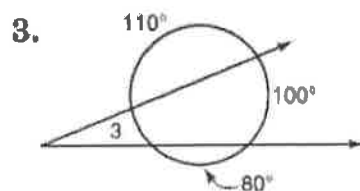
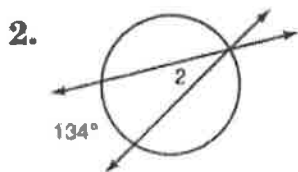
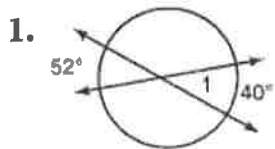
4. Suppose a chord is 20 inches long and is 24 inches from the center of the circle. Find the length of the radius.

5. Suppose a chord of a circle is 5 inches from the center and is 24 inches long. Find the length of the radius.

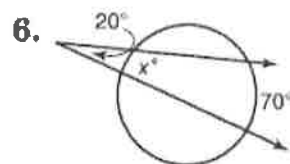
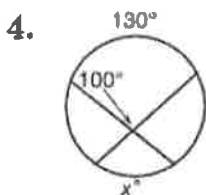
For each in circle  $C$ , find the value of  $x$ . Assume segments that appear to be tangent are tangent.



Find the measure of each numbered angle.

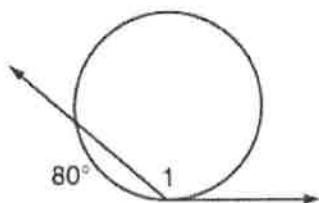


In each circle, find the value of  $x$ .

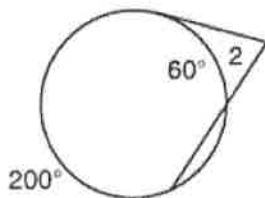


Find the measure of each angle. Assume segments that appear to be tangent are tangent.

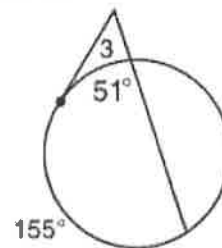
1.  $m\angle 1$



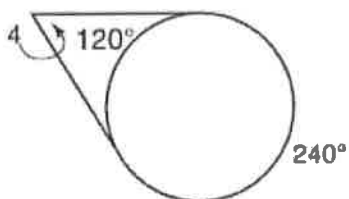
2.  $m\angle 2$



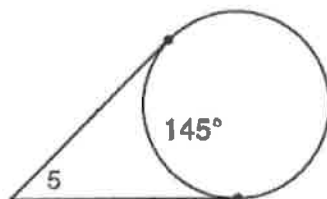
3.  $m\angle 3$



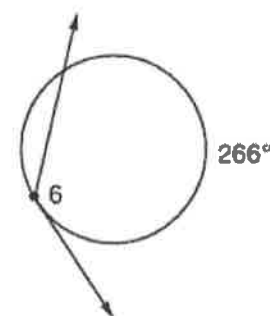
4.  $m\angle 4$



5.  $m\angle 5$



6.  $m\angle 6$



3

Find the coordinates of the center of the circle and the measure of the radius given:

1)  $(x + 1)^2 + y^2 = 121$

2)  $(x - 4)^2 + (y - 1)^2 = .49$

Write an equation of a circle with the given center that passes thru the given point.

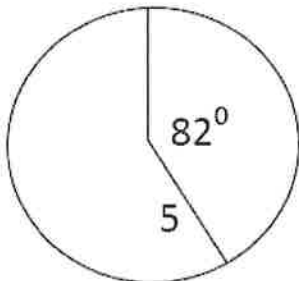
3) center: (2, 3) point: (0, 5)

Given the two endpoints of a diameter, find the center and radius of a circle.

4) endpoint: (3, 6) and endpoint: (-1, -2)

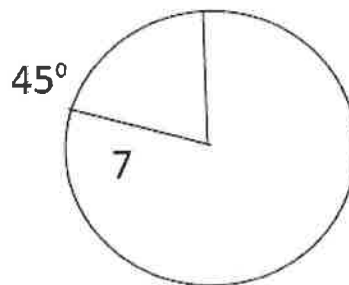
Find the length of the minor arc.

5)



Find the area of shaded portion.

6)

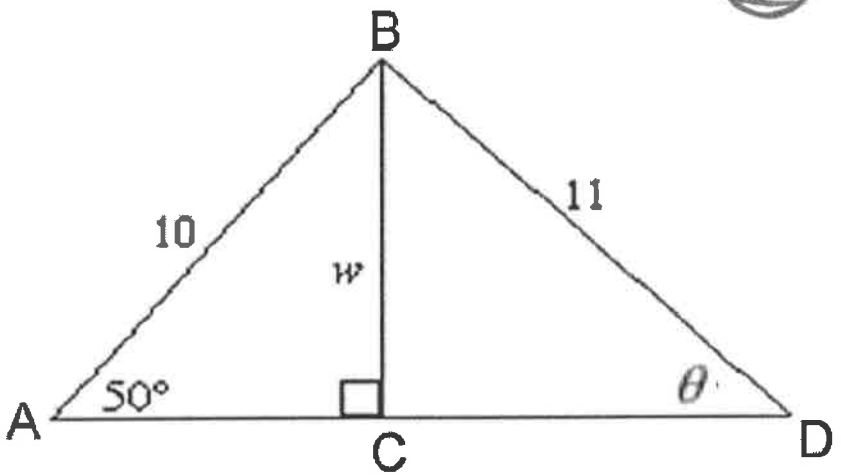


1)

AC: \_\_\_\_\_

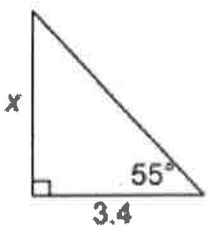
BC: \_\_\_\_\_

$\theta$ : \_\_\_\_\_

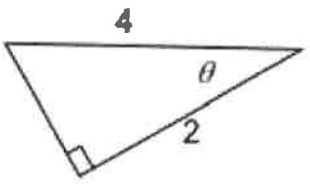


Find the missing information.

2.  $x =$  \_\_\_\_\_



3.  $\theta =$  \_\_\_\_\_



6. Give the picture, find the following sides:

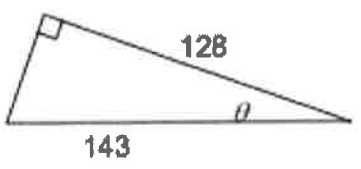
$\overline{AD} =$  \_\_\_\_\_

$\overline{BC} =$  \_\_\_\_\_

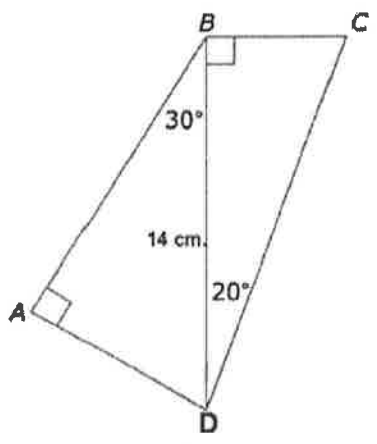
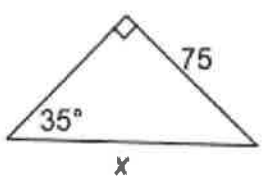
$\overline{CD} =$  \_\_\_\_\_

$\overline{AB} =$  \_\_\_\_\_

4.  $\theta =$  \_\_\_\_\_



5.  $x =$  \_\_\_\_\_



# Geom Part 2 Study Guide

①  $\cong$  Chords have  $\cong$  arcs.

$$m \widehat{NP} = 80^\circ$$

② If a Diam  $\perp$  chord, then it bisects chord & arc.

$$Km = 24$$

③  $12^2 + x^2 = 20^2$

$$144 + x^2 = 400$$

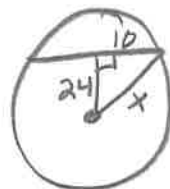
$$x^2 = 256$$

$$x = \pm 16$$

$$x = 16$$

$$xy = 16 + 16 = 32$$

④



$$x^2 = 24^2 + 16^2$$

$$x^2 = 576 + 100$$

$$x = \pm 26$$

$$26 \text{ in}$$

⑤



$$5^2 + 12^2 = r^2$$

$$r = 13$$

$$169 = r^2$$

$$\pm 13 = r$$

6.  $15^2 + 20^2 = x^2$

$$625 = x^2$$

$$\pm 25 = x$$

$$x = 25 \text{ units}$$

⑦

$$x = 14 \text{ units}$$

⑧

$$40^2 + 30^2 = (x+30)^2$$

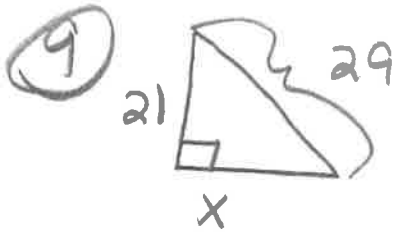
$$1600 + 900 = x^2 + 60x + 900$$

$$0 = x^2 + 60x - 1600$$

$$0 = (x+80)(x-20)$$

$$x = -80 \quad x = 20$$

$$x = 20 \text{ units}$$



10 116 units.

$$x^2 + 21^2 = 29^2$$

$$x^2 + 441 = 841$$

$$x^2 = 400$$

$$x = \pm 20$$

20 units

Pg 2 of Study Guide.

①  $m\angle 1 = \frac{1}{2}(52 + 40)$   
 $= \frac{1}{2}(92)$

$m\angle 1 = 46^\circ$

②  $m\angle 2 = \frac{1}{2}(134)$

$m\angle 2 = 67^\circ$

③  $m\angle 3 = \frac{1}{2}(100 - 70)$

$m\angle 3 = 15^\circ$

4.  $100 = \frac{1}{2}(x + 130)$

$200 = x + 130$

$70^\circ = x$

5.  $Z = \frac{1}{2}(148)$

$m\angle Z = 74^\circ$

6.  $20 = \frac{1}{2}(70 - x)$

$40 = 70 - x$

$-30 = -x$

$x = 30^\circ$

$$\textcircled{1} m\angle 1 = \frac{1}{2} (280)$$

$$m\angle 1 = 140^\circ$$

$$\textcircled{2} m\angle 2 = \frac{1}{2} (200 - 60)$$

$$= \frac{1}{2} (140)$$

$$m\angle 2 = 70^\circ$$

$$\textcircled{3} m\angle 3 = \frac{1}{2} (155 - 51)$$

$$m\angle 3 = 52^\circ$$

$$\textcircled{4} m\angle 4 = \frac{1}{2} (240 - 120)$$

$$= \frac{1}{2} (120)$$

$$m\angle 4 = 60^\circ$$

$$\textcircled{5} m\angle 5 = \frac{1}{2} (215 - 145)$$

$$m\angle 5 = 35^\circ$$

$$\textcircled{6} m\angle 6 = \frac{1}{2} (266)$$

$$m\angle 6 = 133^\circ$$

Pg 3.

$$\textcircled{1} \text{Ctr} (-1, 0)$$

$$r = 11$$

$$\textcircled{2} \text{Ctr} (4, 1)$$

$$r = 7$$

$$\textcircled{3} \text{Ctr} (2, 3)$$

point (0, 5)

$$d = \sqrt{(0-2)^2 + (5-3)^2}$$

$$= \sqrt{4 + 4}$$

$$= \sqrt{8}$$

$$= 2\sqrt{2} \Rightarrow \text{Radius}$$

$$(x-2)^2 + (y-3)^2 = 8$$

④ Find Ctr

$$\frac{3+-1}{2}, \frac{6+-2}{2}$$

$$(1, 2)$$

Find radius

$$(1, 2) \quad (3, 6)$$

$$d = \sqrt{(1-3)^2 + (2-6)^2}$$

$$= \sqrt{4 + 16}$$

$$= \sqrt{20}$$

$$= 2\sqrt{5}$$

Write eqn

$$(x-1)^2 + (y-2)^2 = 20$$

5.  $\frac{AL}{2\pi r} = \frac{m\theta}{360}$

$$\frac{AL}{2\pi(5)} = \frac{82}{360}$$

$$\frac{360AL}{360} = \frac{820\pi}{360}$$

$$AL = \frac{41\pi}{18}$$

OR

$$7.16 \text{ units}$$

⑥  $\frac{A.S}{\pi r^2} = \frac{m\theta}{360}$

$$\frac{A.S}{\pi(7)^2} = \frac{45^\circ}{360^\circ}$$

$$\frac{360AS}{360} = \frac{2205\pi}{360}$$

$$AS = \frac{49\pi}{8} \text{ units}^2$$

OR

$$6.125 \text{ units}^2$$